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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,359	04/02/2004	Su Lin Oon	70040110-1	2554

7590 04/28/2006

AGILENT TECHNOLOGIES, INC.
Legal Department, DL 429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

LOUIE, WAI SING

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/817,359

Applicant(s)

OON ET AL.

Examiner

Wai-Sing Louie

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Marshall et al. (US 6,513,949).

With regard to claim 1, Marshall et al. disclose a hybrid LED lighting system (col. 2, line 33 et seq. and fig. 2) comprising:

- A blue light emitting device 78 that emits blue light with peak wavelength within a range from 460 to 480 nm (col. 4, lines 46-48 and fig. 7);
- An epoxy 18 placed over the light-emitting device (fig. 2), the epoxy including:
 - A first type of phosphor, where the first type of phosphor, when excited, emits green light (col. 4, lines 48-50);
 - A second type of phosphor, where the first type of phosphor, when excited, emits yellow light (col. 4, lines 50-53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5-10, 14, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (US 6,513,949) in view of Ellens et al. (US 6,674,233).

With regard to claims 3 and 16, Marshall et al. do not disclose the composition of the phosphor compound. However, Ellens et al. disclose the first type of phosphor is a green (thiogallate $\text{SrGa}_2\text{S}_4\text{:Eu}$) phosphor (Ellens col. 5, line 36), and the second type of phosphor is a YAG:Ce yellow phosphor (Ellens col. 5, line 51). Ellens et al. teach the thiogallate and YAG phosphor has quantum efficiency of 100% at room temperature (Ellens col. 5, line 38). Therefore, it would have been obvious to one of ordinary skill in the art to modify Marshall's device with the teaching of Ellens et al. to provide thiogallate and YAG phosphor in order to have 100% quantum efficiency.

With regard to claims 5-6 and 17-18, Marshall et al. modified by Ellens et al. disclose the first type of phosphor is a SrS red phosphor (Ellens col. 4, line 23) and where the second type is a YAG:Ce yellow phosphor (Ellens col. 5, line 51).

With regard to claim 7, in addition to the limitations disclosed in claim 1, Marshall et al. modified by Ellens et al. also disclose:

- A second LED (Ellens fig. 2);
- A second epoxy placed over the second LED (Ellens col. 4, lines 18-25) and the second epoxy including:
 - A first type of phosphor (Ellens col. 5, line 36);
 - A second type of phosphor (Ellens col. 5, line 51).

With regard to claim 8, in addition to the limitations disclosed in claim 1, Marshall et al. modified by Ellens et al. also disclose:

- A third LED (Ellens fig. 2);
- A third epoxy placed over the second LED (Ellens col. 4, lines 18-25) and the third epoxy including:
 - A first type of phosphor (Ellens col. 5, line 36);
 - A second type of phosphor (Ellens col. 5, line 51).

With regard to claims 9 and 19, Marshall et al. modified by Ellens et al. disclose the LED is mounted on a lead frame 2 and 3 (Ellens fig. 1).

With regard to claims 10 and 20, Marshall et al. modified by Ellens et al. disclose the LED is mounted on a common substrate 21 (Ellens col. 4, line 27 and fig. 2).

With regard to claim 14, in addition to the limitations disclosed in claim 1, Marshall et al. modified by Ellens et al. also disclose:

- A holding means 8 for holding a first and second type of phosphors adjacent to the LED 1 (Ellens fig. 1).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (US 6,513,949) in view of Soules et al. (US 6,252,254).

With regard to claim 4, Marshall et al. modified by Ellens et al. disclose the mold compound is epoxy, but do not disclose an optical dome covering the epoxy. However, Soules et al. disclose the entire light-emitting device is molded into a dome-shaped lens (Soules col. 3, lines 45-53 and fig. 1). Soules et al. teach the lens may be a diffuse lens, which scatters light,

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propagating through it (Soules col. 3, lines 54-56). Therefore, it would have been obvious to one of ordinary skill in the art to modify Marshall's device with the teaching of Soules et al. to provide an optical dome covering in order to propagate the light through the lens.

Response to Arguments

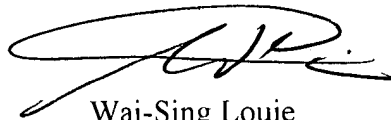
Applicant's arguments with respect to claims 1, 3-10, 14, and 16-20 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Wai-Sing Louie', is positioned above the printed name.

Wai-Sing Louie
Patent Examiner

Wsl
April 26, 2006.